

TECHNICAL SPECIFICATIONS

S (6): CD, Tuner, Aux 1, Aux 2/Phono, Tape, SSP

ITS (4): Tape, Preamplifier, Main Power Amplifier, Stereo Headphone Jack

ROLS (3): Input Select, Balance, Volume

HES (5): SSP, Tape/EPL (External Processor Mono/Stereo, Mute/Operate, Power On/Off

COMPLEMENT: 2-6DJ8/6922

R REQUIREMENTS: 100-120VAC 60Hz (Export 0VAC 50/60Hz) - 400VA

ISIONS: 19" (48 cm) W x 5.25" (13.5 cm) H x 16" (D, Knobs extend 3/4" (1.9 cm) forward of panel

EIGHT: 38 lbs, (17.2 kg) - unpacked

RATED AMPLIFIER SPECIFICATIONS

POWER: 90 Watts (25.5Vrms) into 8 ohms - continuous; or 145 Watts (23Vrms) into 4 ohms; both channels driven 20Hz to 20kHz @ <1% THD&N

FREQUENCY RESPONSE: -0.5dB 20Hz to 35kHz
-3.0dB 10Hz to 95kHz (@ 1W)

SIGNAL TO NOISE RATIO: -95dB (A-weighted ref 80W power); -90dB (Unweighted ref 80W rated power)

THD: 0.1% 1kHz @ rated power,
30Hz to 15kHz @ rated power,
Hz to 23kHz @ rated power

PHASE: Non Inverting

IMPEDANCE: 40k ohms (Line level inputs)

39dB

SENSITIVITY: 280mV input for rated power, 8 ohms
@ control @ maximum)

PREAMPLIFIER SPECIFICATIONS

(Line Level Inputs to Pre Outputs)

INPUT IMPEDANCE: 40k ohms (line level inputs)

OUTPUT IMPEDANCE: 150 ohms (minimum required load: 10k ohms)

FREQUENCY RESPONSE: -0.5dB 20Hz to 90kHz,
-3.0dB 1Hz to 200kHz

SIGNAL TO NOISE RATIO: -90dB (Unweighted ref 1V @ Pre Out); -95dB (A-weighted ref 1V @ Pre Out)

THD&N: 0.01% 10Hz to 50kHz
(Ref 1V @ Pre Out)

PHASE: Non Inverting

GAIN: 15dB (5.7x)

POWER AMPLIFIER SPECIFICATIONS

(SSP Input(s) to Main Speaker Output)

RATED POWER: 90 Watts into 8 ohms - continuous; or 145 Watts into 4 ohms; both channels driven; both channels driven; 20Hz to 20kHz @ <0.1% THD&N

FREQUENCY RESPONSE: -0.5dB 10Hz to 40kHz (1W);
-3.0dB 15Hz to 100kHz (1W)

SIGNAL TO NOISE RATIO: -100dB (A-weighted ref 80W rated power); -90dB (Unweighted ref 80W rated power)

THD&N: 0.1% 20Hz to 20kHz @ rated power;

PHASE: Polarity Non-inverting

INPUT IMPEDANCE: 19k ohms (Power Amplifier Inputs)

DAMPING FACTOR: 100 @ 8 ohms

GAIN: 24dB (16x)

SENSITIVITY: 1.6VRMS input for rated power



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



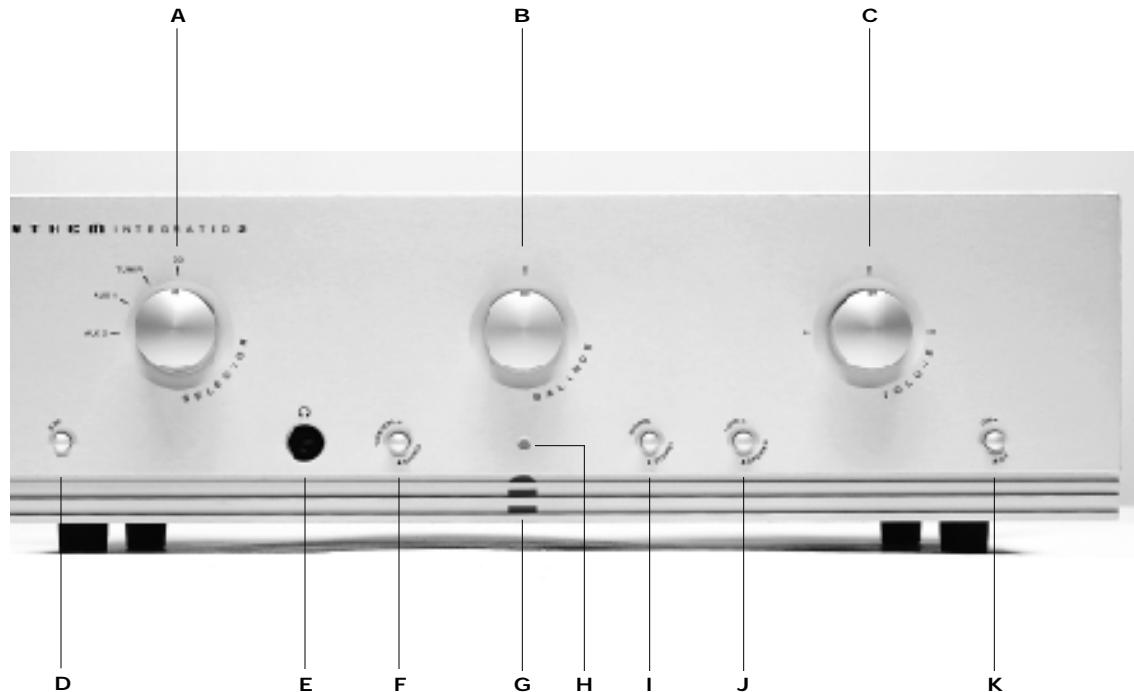
WHAT'S IN THE BOX?

In addition to the Integrated 2, its cover, and the operating manual you are presently reading (with associated inserts and warranty card), there are a few more items to take inventory of before steps are taken to make the Anthem Integrated 2 operational.

These items are:

- 2 6DJ8/6922 tubes
- a glove for handling the tubes
- a detachable AC power cord
- 18 phillips screws
- a phillips screwdriver
- remote handset

After completing an inventory of these items, proceed to the next steps.



4. Sonic Frontiers, Inc. shall not be responsible in any way for consequential or indirect damages or liabilities resulting from the use and operation of the product covered herein or resulting from any breach of this warranty or any implied warranty relating to said product.

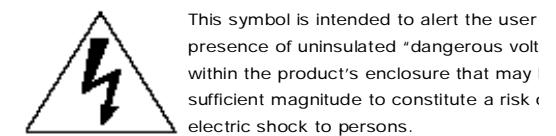
During this period, Sonic Frontiers, Inc. will repair or replace any defective components free of charge. A Return Authorization Number (RA Number) is required before any product is returned to our factory for any reason. This number must be visible on the exterior of the shipping container(s) for Sonic Frontiers to accept the return.

Units shipped to us without a Return Authorization Number or without a visible RA Number on the exterior of the shipping container(s) will be returned to the sender, freight collect.

Units to be repaired by Sonic Frontiers, Inc. must be sent shipping and insurance prepaid by the original purchaser in the original packing material. A returned product should be accompanied by a written description of the defect. Repaired units will be returned by Sonic Frontiers, Inc. shipping and insurance prepaid.

All other warranties or conditions either written or implied are void.

Note: In foreign markets (anywhere outside of Canada and the USA), the warranty is supplied by the authorized International Distributor. Exact terms and conditions may vary.



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This symbol is intended to alert the user the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

-IN TIME

all audio electronic products, the ultimate sonic er of the Integrated 2 will not be realized until and he unit receives a minimum of approximately 70 f signal break-in time (i.e. the Integrated 2 is on putting a signal).

MENT FOR PROPER VENTILATION

at least 4" (15 cm) of clear space above the ed 2 chassis for proper ventilation, making sure the slots in the chassis cover remain unobstructed. e sure that the Integrated 2 is placed on a secure, d level surface (not on carpet).

INSTRUCTIONS

ation - Although your Integrated 2 generates only nombt in use, be sure that the ventilation slots in the top ave at least 4" of unobstructed air space above them. r and Moisture - This product should not be used iter. To prevent fire or shock hazard, do not expose duct to rain or moisture.

- This product should be situated away from heat such as radiators, heat registers, stoves, or other ces which produce heat.

Sources - This product should be connected to an ver source of the proper rated voltage. The original g container will stipulate the AC voltage this unit can with correctly.

ing - A regular dusting with a soft, non-abrasive ll generally keep the finish of the faceplate and chasng like new. At no time should you allow any liquid to i contact with the Integrated 2; it may run into the ic circuitry and cause damage which will not be covder your warranty.

ing - Do not open this product. No user serviceable ide. Refer servicing to an authorized service technician. Use Periods - The power cord of this product should ugged from the outlet when left unused for an d period of time.

ot remove the Integrated 2 cover while the unit is connected to an AC power source. Cover screws ll through the ventilation slots and cause electrical o to the Integrated 2.

PACKING MATERIALS

Please retain all of the packing material and shipping boxes for your Integrated 2. They are custom designed to prevent shipping damage from occurring. Sonic Frontiers, Inc. will accept no responsibility for any damage occurring to an Integrated 2 that is shipped in packing material other than the original Sonic Frontiers packing material.

DISCLAIMER OF LIABILITY

Under no circumstances does Sonic Frontiers, Inc. assume liability or responsibility for injury or damages sustained in the use or operation of this equipment or for damages to any other equipment connected to it. Sonic Frontiers, Inc. reserves the right to make design changes or improvements without the obligation to revise prior versions. All specifications are subject to change without notice.

LIMITED FIVE YEAR WARRANTY

Sonic Frontiers, Inc. warrants to the purchaser that each Integrated 2 is free of manufacturing defects for a period of five (5) years from the date of purchase. This five (5) year limited non-transferable warranty excludes all vacuum tubes, which we warrant for a period of twelve (12) months. To receive this warranty, the original purchaser must complete and mail to Sonic Frontiers, within thirty (30) days from the date of purchase, the enclosed Warranty Registration Card. Sonic Frontiers, Inc. will then validate the warranty to the original purchaser. This warranty is subject to the following conditions and limitations:

1. Warranty applies only to the original purchaser.
2. This warranty is void and inapplicable if the product has been handled other than in accordance with the instructions in this Operating Manual, abused or misused, damaged by accident, neglect or in being transported, or the defect is due to the product being tampered with, modified or repaired by anyone other than Sonic Frontiers, Inc. or an authorized Sonic Frontiers repair depot.
3. Warranty does not cover normal maintenance.

CONTROL FUNCTIONS

A SELECTOR SWITCH

This knob is rotated to select a Line Level Input (P). The Selector Switch is bypassed when the Tape/EPL (External Processor Loop) mode is selected by depressing the Tape/EPL-Source button (F), or when SSP mode is selected by depressing the SSP button (D).

B BALANCE CONTROL

This knob controls the relative balance of the left and right channels to compensate for any discrepancies caused by speaker placement, source imbalance, etc. Full rotation to the left or right of the center detent will fully attenuate the left or right channel.

C VOLUME CONTROL

This knob allows variable control over the Integrated 2's output level. Turn it clockwise and the music gets louder!

D SSP (SURROUND SOUND PROCESSOR) INPUT BUTTON

This button selects an external Surround Sound Processor (SSP) input signal. When selected all preamp functions are completely disabled. The only way to deselect SSP mode is to press the SSP button a second time.*

E HEADPHONE INPUT JACK

The Headphone Jack accepts 1/4" stereo headphone plugs. Upon insertion of the headphone plug, the main amplifier outputs are disabled. All other preamp functions remain operational. Removal of the headphone plug restores the main output signal.

F TAPE/EPL (EXTERNAL PROCESSOR LOOP)- SOURCE BUTTON

When this button is in the SOURCE position (button is not depressed) the signal is routed through the Selector Switch (A) to the Tape/EPL Output (N). Listening and taping is done in this mode. When the button is depressed, the source signal is taken from a tape or processor source through the Tape/EPL Inputs (O) bypassing the selector switch.

NOTE: Unterminated (open) inputs may produce hum from the system loudspeakers when selected.

* This input also functions as an "Amplifier Only" input.

G INFRA RED RECEIVER

The Infra Red signal from the Integrated 2's rem control is received here, to operate the Volume, and SSP controls.

H LED

When the LED is lit the Integrated 2 is "ON", rec power. When the Power Button (K) is depressed the LE be dimly lit Green. After the power-up delay has timed-out (approx. 40 seconds) the LED will be bright green. Upon activating the SSP button (D) LED will be lit orange. When in Mute mode the ir tor LED will flash ON-OFF at approximately 1 sec intervals.

I MONO/STEREO BUTTON

When in the ON position (button depressed), the Mono function is enabled. This function sums all selected input signals together, and directs them both channels. As long as the button is depress left or a right mono signal will be sent to both ch of the preamplifier. All other preamplifier function operate normally.

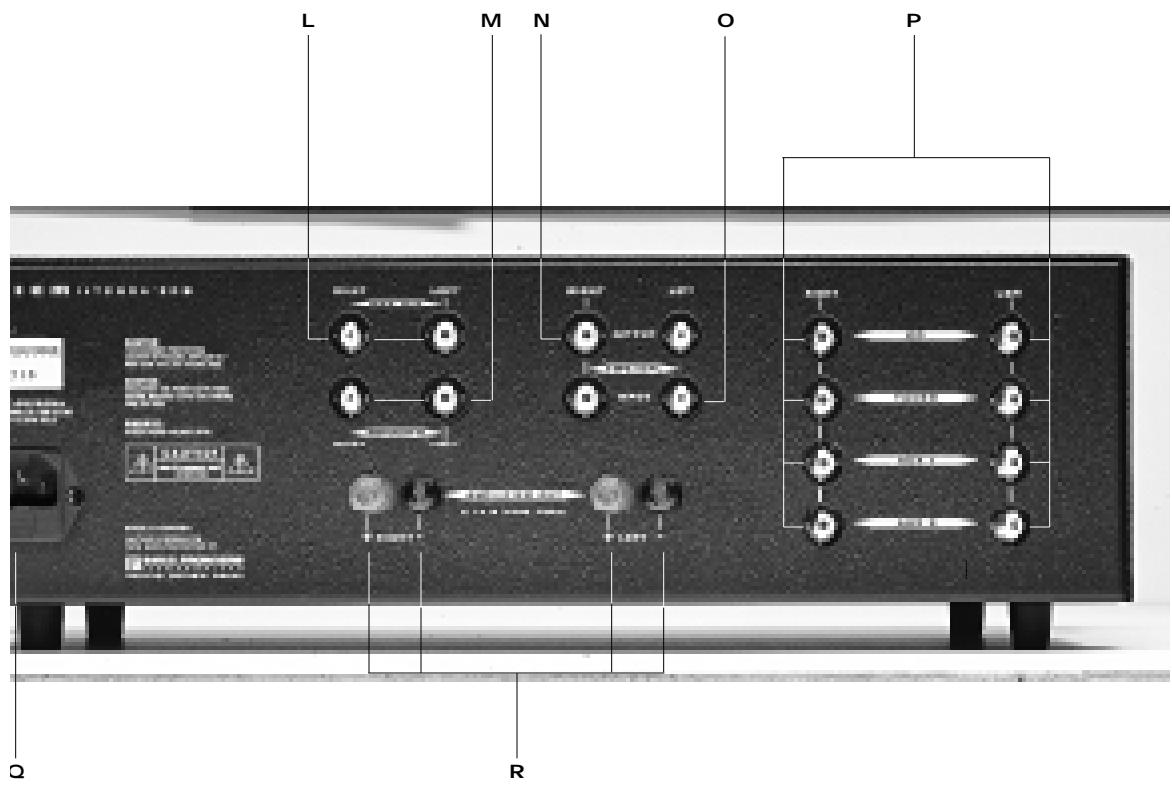
J MUTE-OPERATE BUTTON

When in the OPERATE state, this button will allow normal function. When in the MUTE state, the m signal is prevented from reaching the Outputs (F (L). To indicate a muted condition, the indicator (H) will flash OFF-ON at approximately 1 second vals.

Please Note that Muting does not work w SSP Mode.

K ON-OFF BUTTON

When in the ON position (button depressed), linage is received by the Integrated 2 circuitry fron AC source. Due to the warm up characteristics tubes, it will take 40 seconds for the tubes to pa signal. It is suggested that the Volume be turned for this first minute. After the power-up time-out (approx. 40 sec.) set the desired volume level. When in the OFF position (not depressed), the Integrated 2 is not receiving power and is not operational.



Volume is adjusted through use of the Volume Control (C). Turning this control clockwise increases the volume level of both channels. **Be sure the Volume Control (C) is in the fully counter-clockwise position when turning the unit ON or returning to the OPERATE mode after MUTING, to prevent damage to speakers, amplifiers or the Integrated 2.**

To record from a source, place the Tape/EPL-Source button (F) in the SOURCE position, select the source material you wish to record via the Selector Switch (A), and commence recording. To play back a tape recording, place the Tape EPL/ Source button in the TAPE position.

Muting the Integrated 2 is achieved by placing the Mute/Operate button (J) in the MUTE position (flashing green LED); the output signal is then cut off. To resume listening, place the button in the OPERATE position.

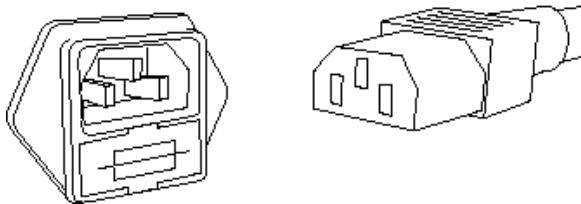


FIGURE 3
Alignment of the AC power connector and detachable cord.

It is recommended that you shut OFF the main power via the Power Switch (K) when not listening.

TROUBLESHOOTING

If at any time the Integrated 2 fails to work properly, consult this checklist:

1. Check that the AC Detachable Power Cord is plugged into the Integrated 2 Detachable Power Cord Socket (O) and is connected to a live source of AC power. For instance, if using a power bar, check that the bar is turned on.



WARNING-DISCONNECT THE AC

2. Ensure that all Input and Output connections are secured with proper electrical contact.

3. DISCONNECT THE AC POWER CORD, wait 5 minute check that:

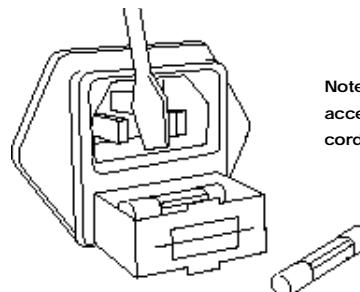
- A slo-blo fuse, with a rating of 4 Amp/250 V (2 Amp/250V for European and Asian versions), is installed in the fuse directly under the removable IEC power cord socket.
- The AC power fuse is intact and has not blown. If the fuse has blown, the thin metal conductor will have melted a glass may appear "smoked". If the fuse has blown, replace with a fuse of the same rating (4 Amp/250V slo-blo for 120 volt countries and 2 Amp/250V slo-blo for 200 to 240 volt countries). (See Figure 5)

NOTE: Under no circumstances should you replace the power fuse with one of a higher current rating! Doing so could cause further damage to the Integrated 2 and will also void the warranty. In addition, your continued protection from fire or shock would be seriously compromised.

- Ensure the tubes are plugged firmly into their sockets as described in "INSERTION OF THE TUBES".

5. Be sure the rest of the system is functioning properly: source unit, cables and connections, loudspeakers etc

6. With tubes, fuses, covers and power cords in place, turn the unit ON. If the LED (H) is lighted (glowing light green). If all of above troubleshooting steps have been followed and the LED is not lighted (remains dark green), contact your dealer or distributor for assistance.



Note: The fuse is not accessible when the power cord is plugged in.

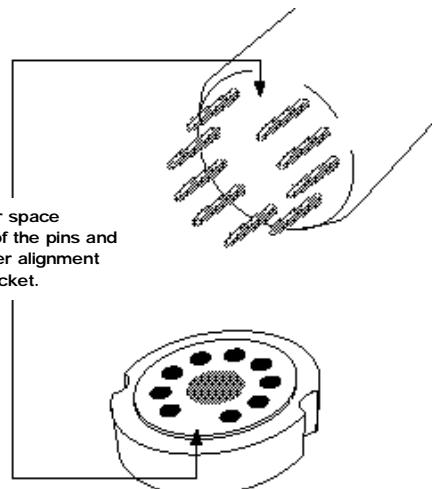
FIGURE 4
Fuse location in the Integrated 2 and removal.

POSITION OF THE TUBES

With the screwdriver supplied, remove the cover of the Integrated 2. For your convenience, only four to six screws are installed at the factory.

In handling the tubes, it is recommended that the gloves provided be worn to prevent skin oils from being on the glass surface.

Using the location of the tube sockets in the top view inspect the tubes for corresponding labels and pins. Once locations are mapped, take a tube and note the pins, noting the larger space between two of them (see Figure 2). This space will match with the tube's position. Insert each tube into the appropriate tube socket making sure all pins and pin holes are aligned. Do not force tubes into the sockets. "Rock" the tubes gently pushing slowly until each tube is firmly seated.



E 2

OPERATION

Before plugging in the Integrated 2, check to see that the unit is configured for the correct AC line voltage for country of use. The operating AC line voltage is indicated on the side of the shipping box. If the Integrated 2 is set incorrectly for the country in which it is to be operated, contact the dealer or distributor in your area. If the unit is configured properly, continue with operation.

First check that the Power Switch (K) is in the "Out" position (OFF) and then connect the Detachable Power Cord to the Integrated 2 AC Power Cord Socket (Q) (see Figure 3). Plug your Integrated 2 into the AC power source.

All remaining connections are made with your favorite interconnect to or from other single-ended inputs. Connect source units to the Integrated 2 Inputs (P); left channel to left channel and right channel to right channel. If a tape or other line level recording or processing device is being implemented, connect the left and right audio output of the unit to the corresponding left and right Tape/EPL Input (O) of the Integrated 2. Also connect the left and right Tape/EPL Outputs (N) on the Integrated 2 to the corresponding left and right audio inputs of the external device. The outputs from a Surround Sound Processor (SSP) can be connected to the SSP input, left output to left input, right output to right input.

Connect loudspeakers to the appropriate post as described in the connection section of this manual.

The Integrated 2 is now ready for operation. Power the Integrated 2 by placing the On-Off button (K) in the ON position. Upon power-on, the Integrated 2 will be muted for 40 seconds to allow the circuitry to stabilize, and this will be indicated by a dim green LED (H).

Select a desired source through the Selector Switch (A).

Balance is adjusted through use of the Balance Control (B); turning it left and right will adjust the left and right levels. The center detent is an indicator for equal, or balanced, left and right levels.

CONNECTION FUNCTIONS

L PREAMPLIFIER OUTPUT

This output connects to the single-ended inputs of other units such as power amplifiers or a crossover unit; connect left channel to left channel and right channel to right channel. The "Pre-Out" jacks allow the Integrated 2 to be used solely as a preamp. These outputs are functional at all times.

M SSP/POWER AMPLIFIER INPUT

This input accepts a single-ended RCA input connection from an external preamp or SSP Processor; connect left channel to left channel and right channel to right channel. The signal input at these connections will bypass all control functions and preamp functions of the Integrated 2 and will operate only as a power amplifier. To enable this input, depress the SSP button (D) on the front panel.*

N TAPE/EPL INPUT

This input accepts a single-ended RCA input connection from a tape deck or external processor; connect left channel to left channel and right channel to right channel. These inputs are activated when the Tape/EPL-Source button (F) is depressed.

O TAPE/EPL (EXTERNAL PROCESSOR LOOP) OUTPUT

This output connects to the single-ended inputs of a tape deck or external processor; connect left channel to left channel and right channel to right channel. This output always follows the input selection of the Selector Switch (A).

P LINE LEVEL INPUTS FOR CD, TUNER AND AUXILIARY SOURCES

A line level single-ended source connection may be made to these 4 sets of RCA connectors; connect left channel to left channel and right channel to right channel.

Q DETACHABLE AC POWER CORD SOCKET AND FUSE HOLDER

Plug the Detachable Power Cord into this socket (see Figure 3). The Integrated 2 is factory set for the correct operating voltage for the area in which it is shipped (see shipping box for voltage setting). If a different operating voltage is required, please contact an authorized Sonic Frontiers or Anthem dealer, distributor or factory directly.

Two spare fuses have been supplied with your Integrated 2, along with the fuse in the unit. The fuse is not accessible with the detachable power cord in place (see fig. 4). A spare fuse is supplied in the front panel drawer. Use only the supplied fuses or fuses obtainable from your Sonic Frontiers dealer.

R LOUDSPEAKER CONNECTION POSTS

The binding posts on the Integrated 2 are configured to allow bare wire (12 awg) or spade lug loudspeaker connections. These binding posts are CE approved and do not allow the use of banana plugs, as the connector barrel has been plugged with a plastic insert. In countries where banana plugs are allowed, these inserts may be removed.

Loudspeakers with a nominal impedance of 4 to 8 ohms are suitable for use with the Integrated 2. If you have any concerns about the suitability of your loudspeakers, consult your speaker data sheet or manufacturer, or Sonic Frontiers Service Representative directly.

* In this mode, the Integrated 2 may be used as a separate pre-amp and power amp, eg. an electronic crossover may be inserted between the "Pre-Out" and "SSP / Power-In", or the "Pre-Out" jacks could be used in a "Bi-Amp" system.

DTE CONTROL FUNCTIONS



S VOLUME CONTROL UP

This button will increase the volume of the Integrated 2.

T VOLUME CONTROL DOWN

This button will decrease the volume of the Integrated 2.

U MUTE BUTTON

This button will Mute the outputs of the Integrated 2 until the button is pressed again. This Muting is indicated by the flashing of the LED (H).

V SSP BUTTON

This button will select an external Surround Sound Processor or Preamplifier as the input, and bypass all Integrated 2 Preamp functions.

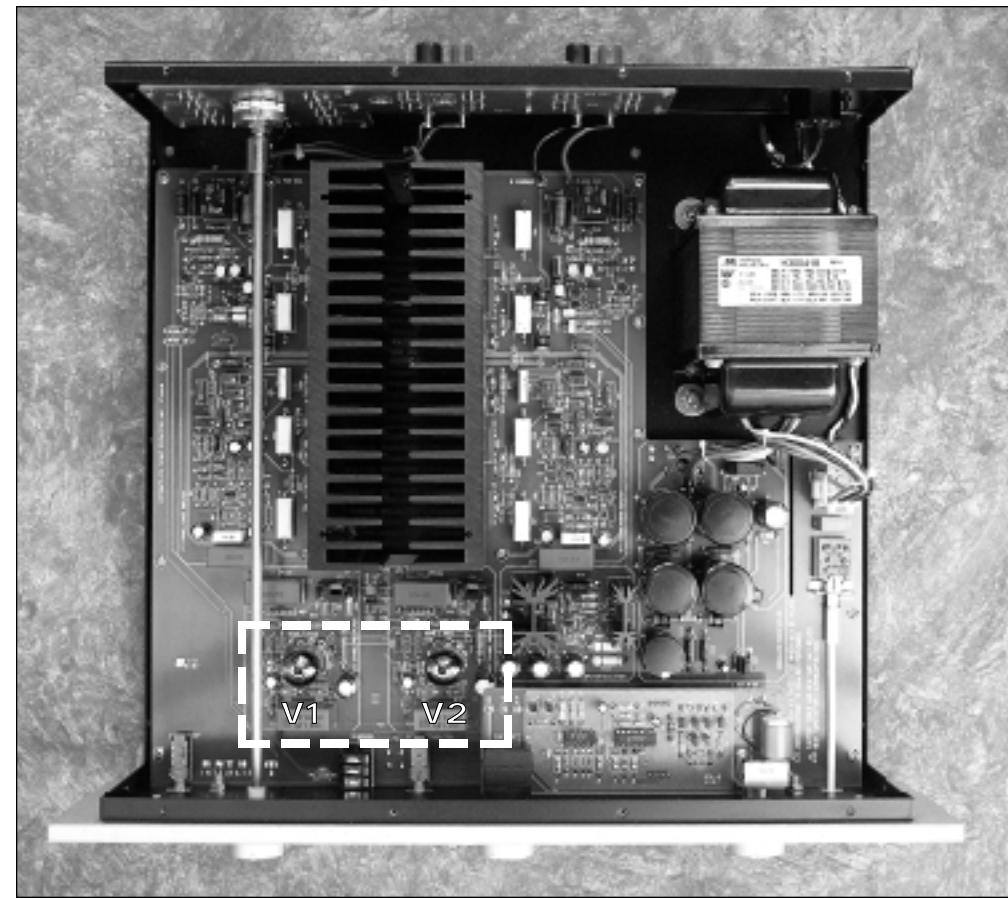


FIGURE 1

SETTING UP

The Integrated 2 comes with two (2) tubes, as follows:

6DJ8/6922 PREAMP TUBES

These tubes perform the line level preamplifying function of the Integrated 2. The preamplifier stage of the Integrated 2 provides 15 db of gain. The 6DJ8/6922 tubes may also be replaced with matched pairs of 7308 tubes.

The tubes are labeled V1 & V2. Place each tube in the corresponding position according to figure 1 above.



WARNING-DISCONNECT THE AC DETACHABLE POWERCORD FROM INTEGRATED 2 AND WAIT 5 MINUTES BEFORE REMOVING COVER, OR THIS WILL DAMAGE THE UNIT.

ANTHEM

ANTHEM INTEGRATED 2 OPERATING MANUAL

